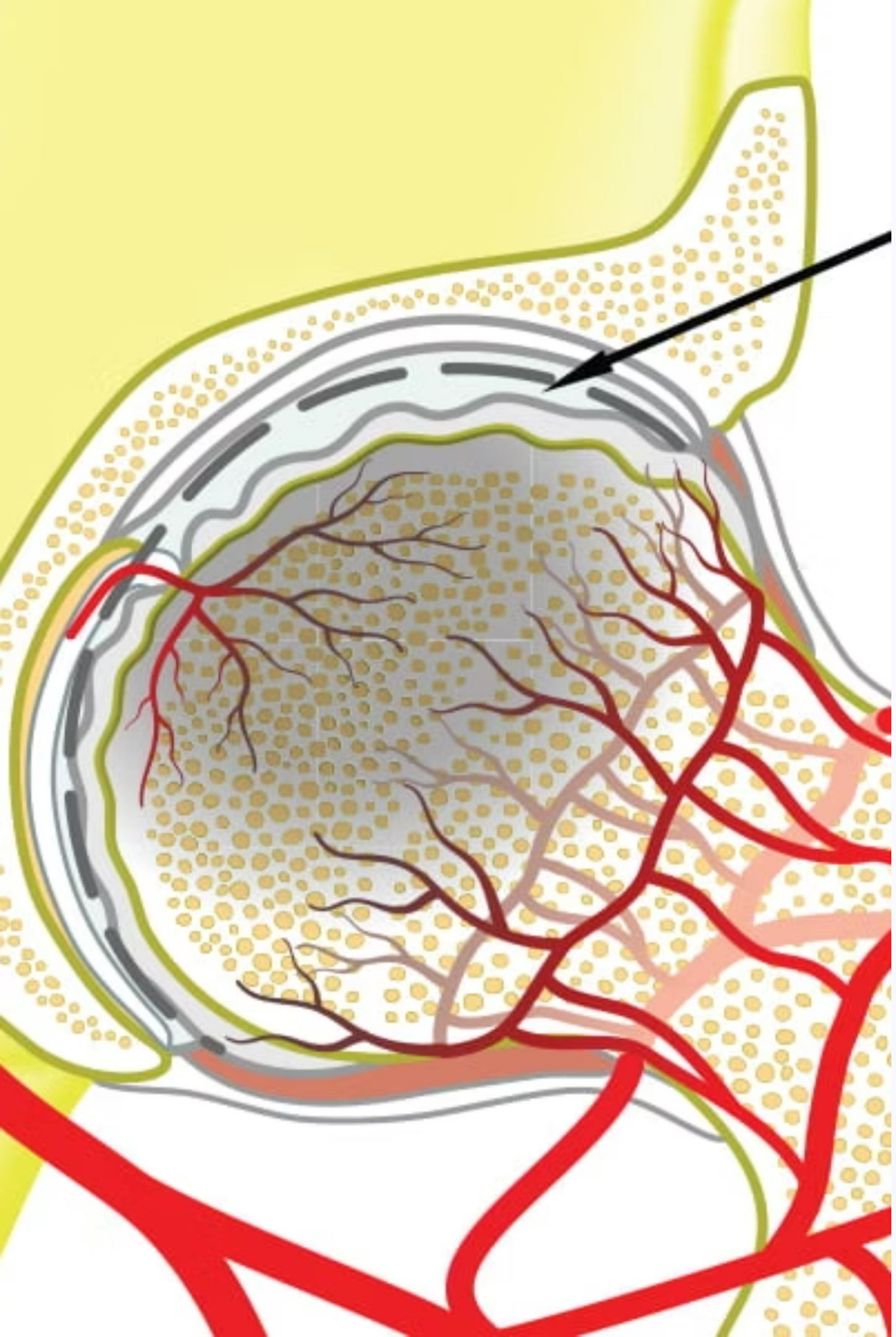
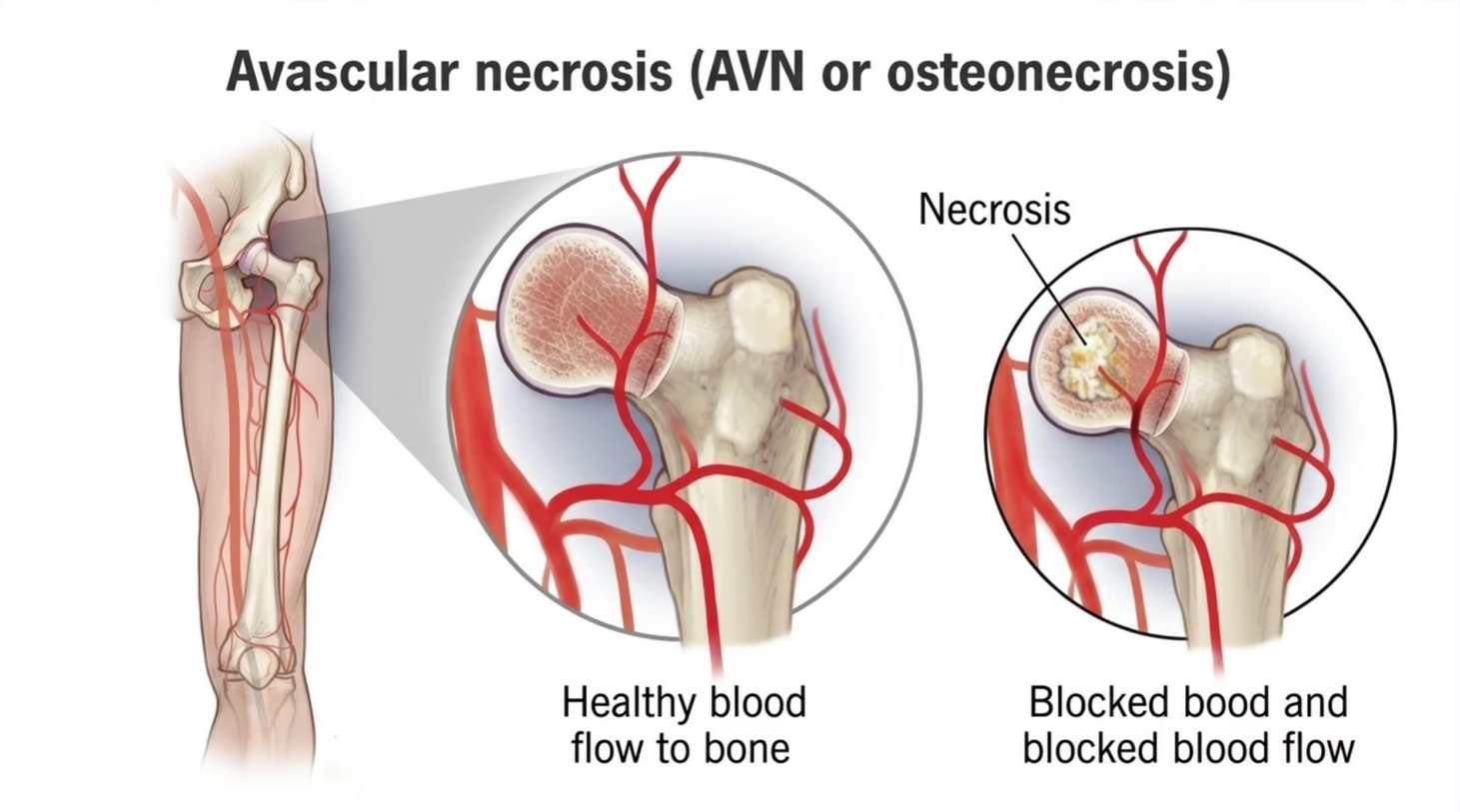


Understanding Stages of Avascular Necrosis (AVN) of the Hip

Early Detection & Stage-Based Treatment for Joint Preservation

HipXpert **India** – Expert AVN Care & Regenerative Solutions

What is Avascular Necrosis (AVN)?



Avascular Necrosis (AVN) is a condition where the blood supply to the femoral head is disrupted, leading to bone cell death and potential structural collapse of the hip joint.

Without adequate blood flow, the bone tissue begins to deteriorate. Early diagnosis through MRI imaging is crucial for preserving the natural hip joint and preventing irreversible damage.

Why AVN Staging is Critical

Treatment Strategy

Determines whether regenerative therapies or surgical intervention is most appropriate

Disease Prognosis

Helps predict progression and timeline for potential joint deterioration

Joint Preservation

Maximizes opportunity to save the natural hip before advanced damage occurs

Therapeutic Path

Guides regenerative versus surgical treatment decisions based on structural integrity

AVN Progression: Stage 1 to Stage 4

Stage 1

MRI changes visible, but no structural bone damage apparent on X-ray

Stage 2

Definite bone changes visible on X-ray, but femoral head surface remains intact

Stage 3

Early collapse of femoral head surface becomes evident

Stage 4

Advanced collapse with joint space narrowing and secondary arthritis

Early Stage AVN: Stage 1 & 2

No Structural Collapse

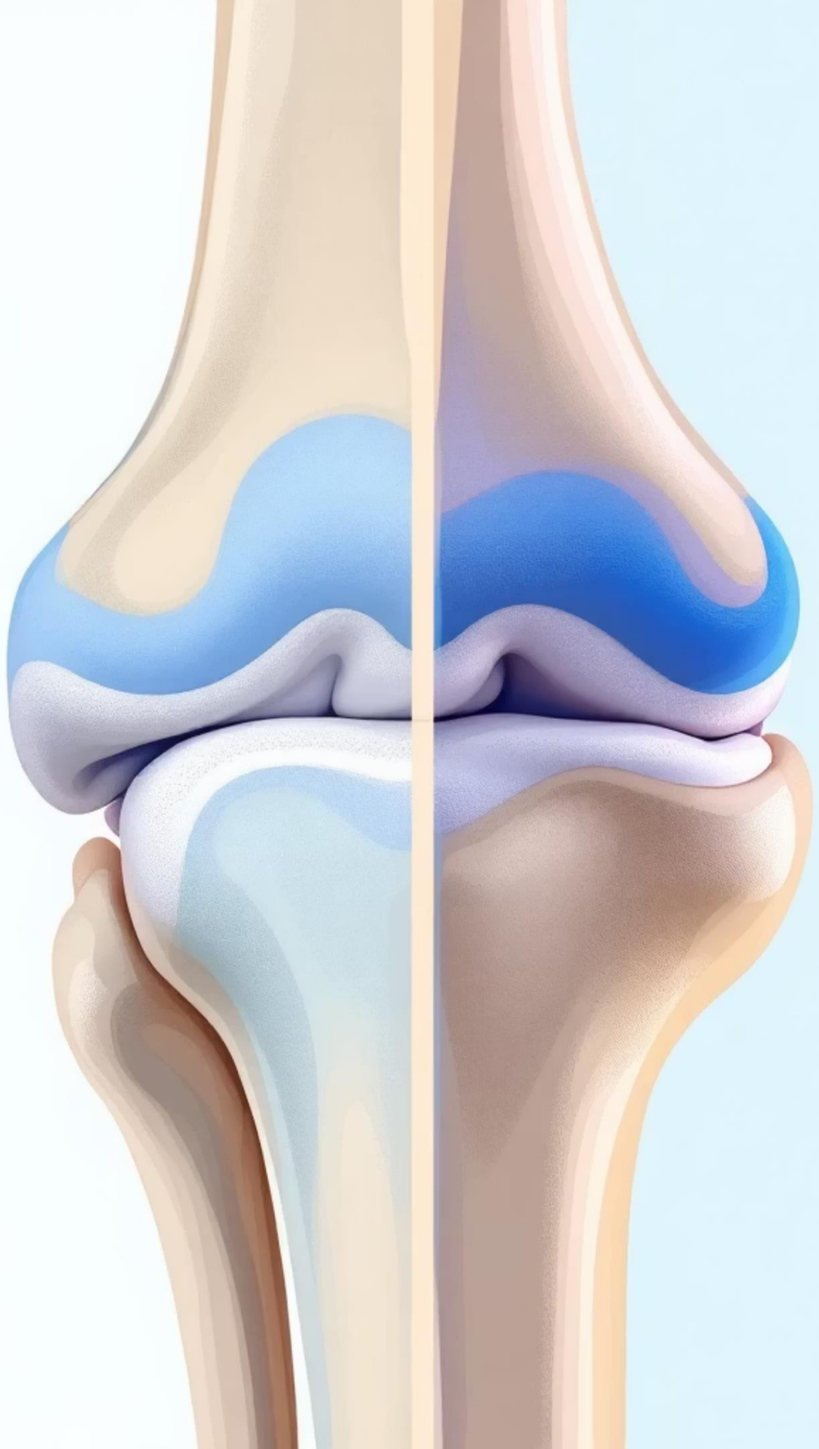
The femoral head maintains its spherical shape and structural integrity

Optimal Treatment Window

Best opportunity for regenerative therapies and joint preservation protocols

Focus on Preservation

Emphasis on biological repair and restoring blood supply to prevent progression

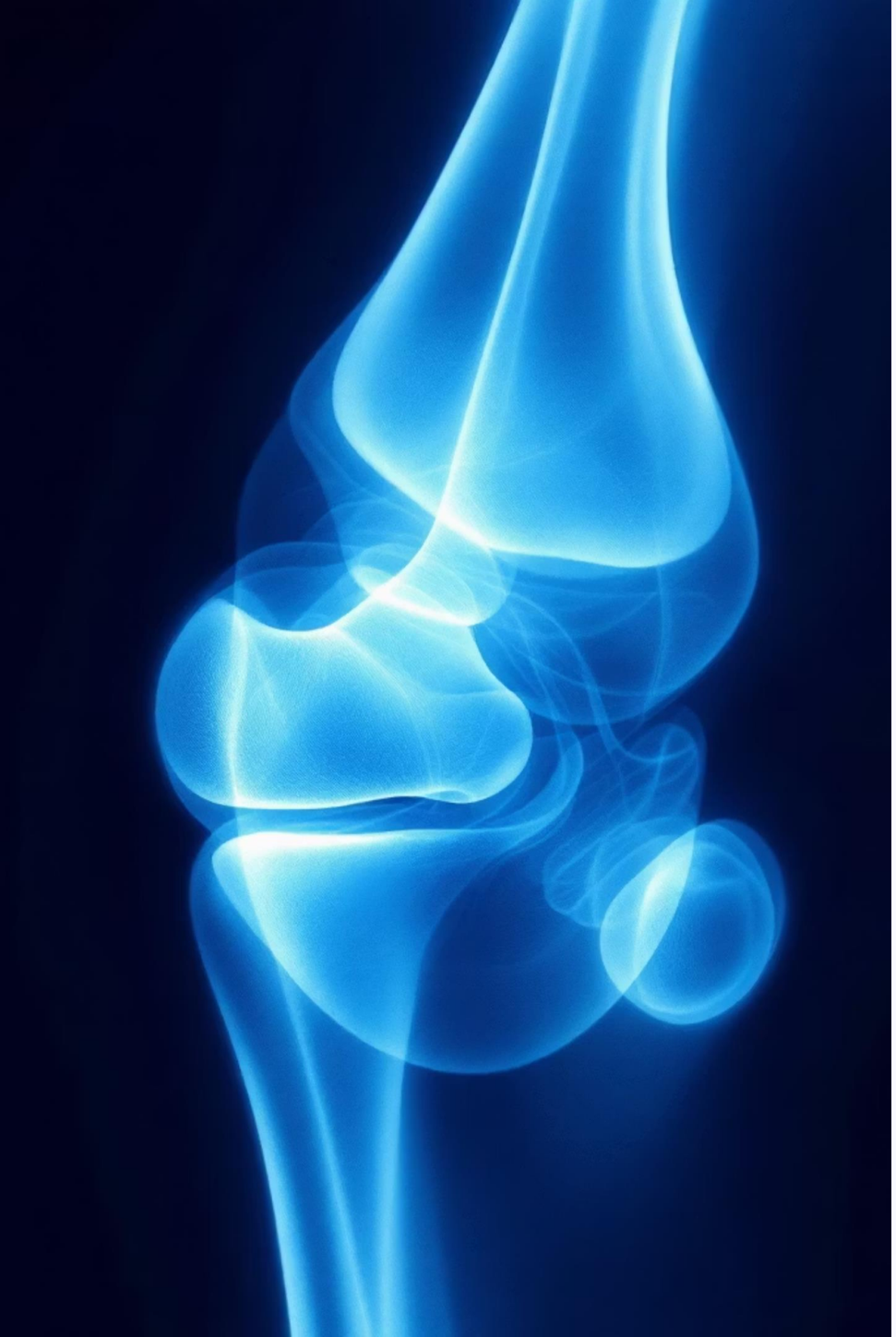


Stage 3 AVN: The Critical Transition

Early Collapse Phase

Stage 3 represents a critical turning point where the femoral head surface begins to collapse. This structural change marks the transition from potentially reversible damage to more permanent joint alterations.

Patients typically experience increased pain, stiffness, and reduced range of motion. Careful evaluation determines whether joint preservation remains feasible or if surgical intervention becomes necessary.



Stage 4 AVN: Advanced Disease

Severe Structural Collapse

Significant deformity of the femoral head with complete loss of normal architecture

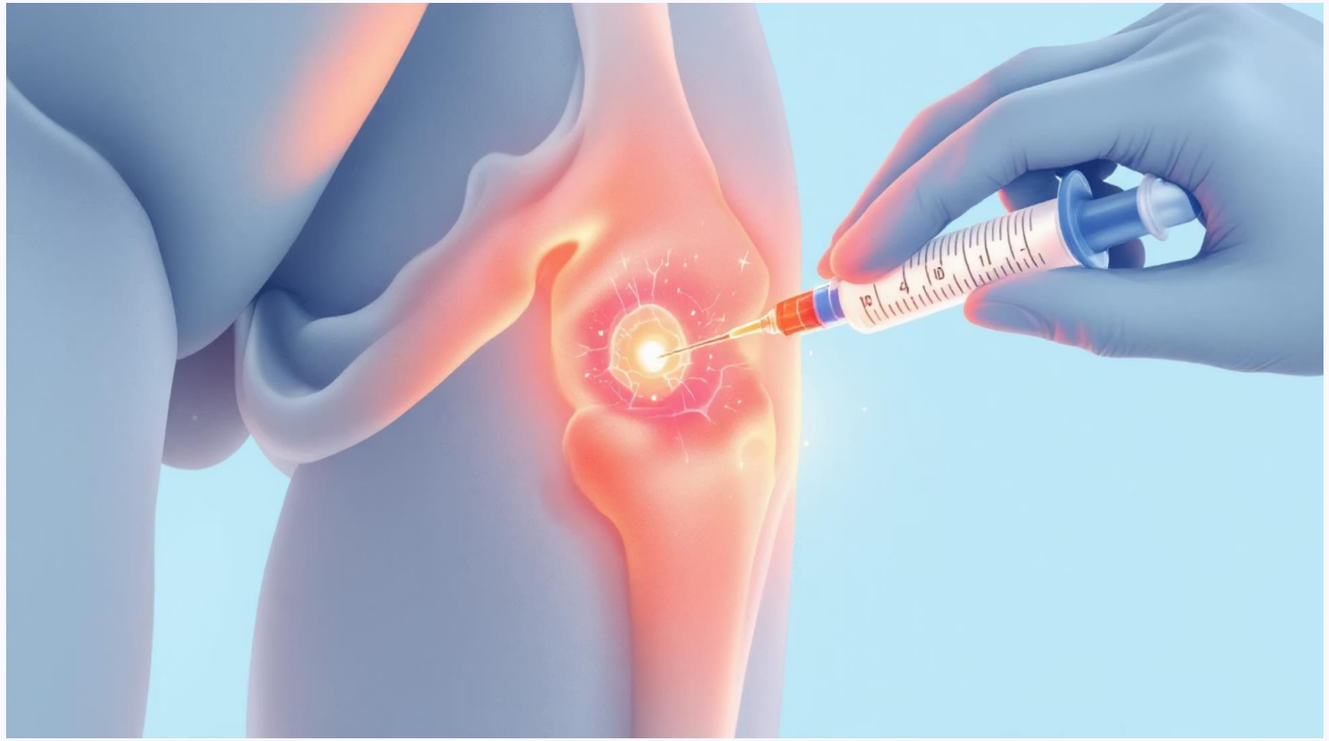
Joint Space Loss

Progressive narrowing of the joint space between femoral head and acetabulum

Secondary Arthritis

Advanced degenerative changes throughout the hip joint requiring joint replacement

Where Regenerative Treatment Makes a Difference



Stage 1 & 2: Most Effective

Regenerative therapies show highest success rates when structural collapse hasn't occurred

Selected Stage 3: Potential Benefit

Careful patient selection may allow some Stage 3 cases to respond to biological treatment

Biological Focus

Emphasis on promoting natural bone repair and restoring blood vessel formation

SVF Therapy for Avascular Necrosis

Adipose-Derived SVF Therapy represents an advanced regenerative approach utilizing your body's own healing potential:

Support Bone Repair

Stimulates osteogenesis and bone regeneration at the cellular level

Improve Vascularity

Promotes new blood vessel formation to restore circulation to the femoral head

Promote Joint Preservation

Maximizes opportunity to avoid or delay joint replacement surgery

Clinical Application: Stage 1, Stage 2, and carefully selected Stage 3 cases

Don't Wait for Advanced Damage

Early Diagnosis

Recognize symptoms early

Stage-Based Treatment

Personalized therapeutic approach

Regenerative Focus

Preserve your natural hip

Consult HipXpert India – Expert AVN Diagnosis & Treatment

🌐 https://hipxpert.in | 📩 Book Your Consultation

https://hipxpert.in